

What is claimed is:

1. A remote access server that is a data-link initiation reception side device that, in accordance with a connection request that is received by way of a circuit-switching network from a terminal device, which is the data-link initiation side device, initiates a link and connects to an ISP server by way of the Internet; and that divides circuit resources that are provided between physical link resources to each of said terminal devices and logical link resources to said ISP server, and controls connections;

wherein a logical link resource number, which is the number of said logical link resources, is set greater than a physical link resource number, which is the number of said logical link resources; and said remote access server is provided with:

means for, upon receiving new connection requests from terminal devices, using a logical link resource and a connection identifier that are not in current use to connect to said ISP server; and

means for, upon receiving a request from a terminal devices indicating a transition to a dormant state, releasing the physical link resource to said terminal device while maintaining the connection of the logical link resource to said ISP server without change, and upon receiving a reconnection request that indicates a connection identifier from a terminal device, using the logical link resource that is set to that connection identifier to implement reconnection.

2. A remote access server that is a data-link initiation reception side device that, in accordance with a connection request that is received by way of a circuit-switching network from a terminal device, which is a data-link initiation side device, initiates a link and connects to an ISP server by way of the Internet; said remote access server being provided with:

5 a link information management unit for:

managing connection identifiers and information that relates to the state of use of logical link resources, which are circuit resources to said ISP server, and

10 linking and storing information of logical link resources that are currently being used and connection identifiers that are set to said logical link resources;

a physical link resource control unit for:

managing physical link resources, which are circuit resources

15 to each said terminal device;

upon receiving a connection request from a terminal device, accessing said link information management unit and capturing a logical link resource and a connection identifier that are not in current use, issuing a connection request that designates the captured logical link resource, and

20 transmitting the captured connection identifier to the terminal device that sent the connection request;

upon receiving a request indicating a transition to a dormant state from a terminal device, releasing the physical link resource to that terminal device; and

upon receiving a reconnection request that indicates a connection identifier from a terminal device, searching said link information management unit and thus specifying the logical link resource that is set to that connection identifier, and issuing a connection request that designates
5 the logical link resource that was specified; and

a logical link resource control unit for:

managing logical link resources that are greater in number than the physical link resource number, which is the number of said physical link resources; and

10 upon receiving a connection request from said physical link resource control unit that designates a logical link resource that is to be used, using the logical link resource that was designated to connect to said ISP server.

15 3. A resource management method, which is a method of managing circuit resources that are provided in a remote access server, which is the data-link initiation reception side device, that, in accordance with a connection request that is received by way of a circuit-switching network from a terminal device, which is the data-link initiation side device, initiates a
20 link and connects to an ISP server by way of the Internet; said resource management method comprising steps of:

dividing circuit resources that are provided in a remote access server between physical link resources to each said terminal device and logical link resources to said ISP server, and setting such that the logical link

resource number, which is the number of said logical link resources, is greater than the physical link resource number, which is the number of said physical link resources;

5 upon receiving a new connection request from a terminal device, using a logical link resource and connection identifier that are not currently being used to connect to said ISP server;

10 upon receiving a request from a terminal device indicating a transition to a dormant state, releasing the physical link resource to the terminal device while maintaining the connection of the logical link resource to said ISP server without change; and

 upon receiving a reconnection request from a terminal device indicating a connection identifier, using the logical link resource that is set to the connection identifier to reconnect.

15 4. A communication system, comprising:

 a plurality of data-link initiation side devices, which are terminal devices of users that use the Internet;

 a connection management server for:

20 comprehensively managing information relating to connection identifiers and the state of use of logical link resources of a plurality of remote access servers and information for specifying the remote access servers that are provided with logical link resources that are used, and

 linking and storing information on logical link resources that are currently in use with connection identifiers that are set to these logical link

resources and information for specifying remote access servers in which these logical link resources are provided; and

a plurality of remote access servers (RAS) that are each provided with:

5 a physical link resource control unit for:

managing physical link resources, which are circuit resources to each said terminal device;

upon receiving a connection request from a terminal device, accessing a link information management unit and capturing a logical link
10 resource and a connection identifier that are not in current use, issuing a connection request that designates the logical link resource that was captured, and transmitting the captured connection identifier to the terminal device that sent the connection request;

upon receiving a request indicating transition to a dormant
15 state from a terminal device, releasing the physical link resource to that terminal device; and

upon receiving a reconnection request indicating a connection identifier from a terminal device, searching said connection management server to specify the logical link resource that is set to that connection
20 identifier and the remote access server in which that logical link resource is provided, issuing a connection request that designates the logical link resource that was specified when the remote access server that was specified is its own device, and issuing a connection request to an inter-RAS

communication control unit when the remote access server that was specified is another remote access server;

a logical link resource control unit for:

managing logical link resources that are greater in number
5 than the physical link resource number, which is the number of said physical link resources; and

upon receiving a connection request that designates a logical link resource that is to be used from said physical link resource control unit or said inter-RAS communication control unit, using the designated logical
10 link resource to connect to said ISP server; and

an inter-RAS communication control unit for communicating data with other remote access servers.